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India Moves Towards Menstrual Hygiene: Subsidized Sanitary Napkins for Rural Adolescent Girls—Issues and Challenges

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Abstract The onset of menstruation is one of the most important physiological changes occurring among girls during the adolescent years. Menstruation heralds the onset of physiological maturity in girls. It becomes the part and parcel of their lives until menopause. Apart from personal importance, this phenomenon also has social significance. In India, menstruation is surrounded by myths and misconceptions with a long list of "do's" and "don'ts" for women. Hygiene-related practices of women during menstruation are of considerable importance, as it may increase vulnerability to Reproductive Tract Infections (RTI's). Poor menstrual hygiene is one of the major reasons for the high prevalence of RTIs in the country and contributes significantly to female morbidity. Most of the adolescent girls in villages use rags and old clothes during menstruation, increasing susceptibility to RTI's. Adolescents constitute one-fifths of India's population and yet their sexual health needs remain largely unaddressed in the national welfare programs. Poor menstrual hygiene in developing countries has been an insufficiently acknowledged problem. In June 2010, the Government of India proposed a new scheme towards menstrual hygiene by a provision of subsidized sanitary napkins to rural adolescent girls. But there are various other issues like awareness, availability and quality of napkins, regular supply, privacy, water supply, disposal of napkins, reproductive health education and family support which needs simultaneous attention for promotion of menstrual hygiene. The current article looks at the issue of menstrual hygiene not only from the health point of view, but also considers social and human rights values attached to it.

Keywords Menstruation · Menstrual hygiene · Subsidized sanitary napkins · Reproductive tract infections · Reproductive health education · Rural adolescent girls · Water · Myths and misconception in menstruation

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History of Menstruation Health in India

Menstruation heralds the onset of physiological and reproductive maturity in girls. The first menstruation (menarche) most often occurs between 11 and 15 years with a mean of 13 years. In India, a woman tends to plan her activities of daily life and in particular outdoor activities and strenuous work according to her menstrual period. Thus, menstruation becomes a central issue in her life [1]. But the importance of this phenomenon is not only physiological: social and religious significance is attached to it as well. The myths and misconceptions regarding menstruation are widespread. In several societies there are (cultural and/or religious) taboos concerning blood, menstruating girls and women and menstrual hygiene. Among

Hindus, menstruation is considered 'polluting'. In Nepal, The Kumari, girls who have the status of living goddesses (incarnations of the goddess Kali), are believed to lose their divine strengths when they start menstruating; they lose their status of living goddess immediately. In the Bible, there is an explicit reference to the impurity of women during their menstruation. In the Jewish tradition, menstruating women and everything that they touch is considered to be impure. Among Muslims, menstruating women are prohibited from touching the holy Koran and praying during a minimum of 3 and a maximum of 7 days [2].

Restrictions during menstruation that limit the daily activities and routines of women are widely practiced in India. These restrictions manifest from beliefs that a woman during her menstruation is ritually dangerous, which can result in her spoiling food, plants, biological and social processes. Women are prohibited from religious activities, attending functions (like marriages), cooking, and sexual intercourse or touching male members of the house during their menstrual periods. Similarly, under Islamic law, they are not allowed to enter the mosque, to fast, or to have sex. Girls are relieved from exclusion only after a purification ritual i.e. women are required to undertake major ablution (ritual bathing) after the conclusion of menstruation [3, 4]. Dasgupta and Sarkar [5] reported that 85% of school-going adolescent girls practiced different restrictions during menstruation. Among them, 70.59% of girls did not attend any religious occasion, 50% of girls did not eat certain foods such as sour foods, banana, radish and palm. Almost 43% of girls did not play, 33.82% of girls did not perform any household work, 16.18% of girls did not attend school and 10.29% of girls did not attend any marriage ceremony during the menstrual period. Devi and Ramaiah [6] from Andhra Pradesh (India), Puri and Kapoor [7] from Punjab (India) reported similar observations.

Most girls are ignorant about the physiology of menstruation and therefore the first experience of menstruation is of fear, shame and disgust. A fear inculcates in the adolescent girls that they will sin if they breaks these taboos [8]. For these reasons, girls' attitudes and expectations about menstruation became very negative. This leads to self-objectification, body shame not only in developing countries but also in western countries like the United Sates (US) [9]. Correct information and education regarding menstruation and reproductive health to adolescents is still a big challenge in India and in most of the developing countries. In both rural areas and urban slums, adolescents remain uninformed or very little informed about these issues. The educational system also tends to be ambivalent about sex education. Teachers often find the topic embarrassing or shameful and hence tend to avoid such issues; as a result of which young people tend to rely on peers and mass media for information [10]. An Indian Council for Medical Research (ICMR) study reported that the main source of information regarding menstruation to the adolescent girls was their mother (37.6%), siblings (32.8%), and friends (27.6%). The same study reported that 70.4% of mothers of adolescent girls considered menses as dirty and polluting [11]. Thus the adolescent receives superficial, incomplete, confusing and non-scientific information that has its origin from cultural influences surrounded by myths and misconceptions.

Reproductive Tract Infections (RTIs), which has become a silent epidemic that devastates women's life, is closely interrelated to poor menstrual hygiene. The use of rags and old clothes is a rule rather than exception in rural areas of India. Rags and old clothes that are unclean increase the chances of RTIs including urinary, vaginal and perineal infection. Very often, serious infections are left untreated and may sometimes lead to potentially fatal toxic shock syndrome [3]. Untreated RTIs are responsible for 10–15% of fetal wastage and 30–50% of prenatal infection. Increasingly RTIs are also linked with the incidence of cervical cancer, HIV/AIDS, infertility, ectopic pregnancy and a myriad of other symptoms [12].

According to the prevailing myths, the used menstrual cloth possesses an evil quality and if men see the cloth, dry or otherwise, they could go blind [8]. For this reason and because of a culture of shame and embarrassment, women are forced to seek well-hidden places even in their homes to dry the rags. These places are often damp, dark and unhygienic which may lead to serious health risks [13]. As a consequence of this, women and girls mostly have to use moist and damp cloths. The usual practice is to wash the cloth with soap after use and keep it at some secret place until the next menstrual period [5].

In addition, there is no piped water supply in the majority of Indian villages hence sufficient water is not available for menstrual hygiene. In addition, the subject of privacy is also a concern. Due to small houses and huts and because of joint families are big families, the women found it very difficult to get space for personal needs like menstruation management.

Limited accesses and affordability of sanitary napkins and washing facilities are one of the reasons for constrained school attendance and ill health due to infection. The inconsistent supply of water in the schools and lack of privacy contributes to low attendance. Dasgupta and Sarkar [5] reported that more than half of the school going adolescent girls (51.25%) did not possess a covered toilet (i.e. not having complete privacy because the toilet is not covered from all sides, or it does not have doors). Water Aid Mission in Nepal reported that about half of the respondents (53%) had ever been absent in school at least once due to

menstruation. Many girls, although physically present in the school, were unable to perform well due to poor concentration and attention resulting from the constant worry [3]. Thus, there are many reproductive health implications of menstruation and its effect on quality of life including school and other social activities for adolescent girls.

Current Status of Sanitary Napkins in India

In India, among the 1.1 billion people, there are about 300 million women aged 15–54 years. A woman will use an average of 10,000 pieces of sanitary napkins within 30–40 years in her entire lifetime [14]. As per these estimates, the consumption is estimated to be 58,500 million pieces per year. In India, the present consumption is 2,659 million pieces [14]. Market penetration in terms of sanitary napkin use among Indian female population is very low at 10–11% of the total market, while in Europe and the United states it is well above 73–92%. While awareness on menstrual hygiene in the urban areas of India is around 21–25% given the substantial advertising, the awareness on menstrual hygiene and usage of sanitary napkins is virtually absent in rural areas [14].

Singh [1] has reported low use of sanitary napkins from two north Indian villages with only 0.4% of women using market-pads (ready-made sanitary napkins) during menstruation. In West Bengal (India), Dasgupta and Sarkar [5] reported in a study involving school going adolescent girls that more than half of the respondents (51.25%) were ignorant about the use of sanitary pads during menstruation. Only 11.25% of girls used sanitary pads during menstruation, 42.5% of girls used old cloth pieces and 6.25% of girls used new cloth pieces. Almost 40% of girls used both cloth pieces and sanitary pads during menstruation and 73.75% of girls reused cloth pieces. Similar findings were observed in Nepal where 66% of respondents used re-usable cloths to absorb menstrual flow during menstruation, the use being significantly higher among rural than urban school girls [3].

Various factors are responsible for such a low use of sanitary napkins in India including lack of awareness, availability, affordability and lack of disposal facilities. In India, particularly in the villages, where about 70% of the Indian population resides, the price of sanitary pads is the biggest entry barrier. A pack of 10 sanitary napkins costs ₹ 30–40 {(₹=Indian National Rupee (currency)}. Therefore, average expenditure during every menstruation period would be around ‘48, which is expensive by Indian standards [14]. As per the study by Water Aid Mission in Nepal, lack of knowledge about availability of sanitary napkins (41%) and high cost (38%) were the major reasons for not using sanitary napkins [3].

As per the estimations in a report of the working group on Adolescents for the tenth five year plan by Planning Commission of India, as of March 2000, adolescents aged 10–19 years comprises 23% of the Indian population i.e. almost 230 million. Such a large group represents a major human resource that could contribute to the overall development of the country. Not only the social and economic development, but also social harmony, gender parity, population stabilization and improved quality of life would depend upon the fact how the country addresses their needs [10]. Adolescents are increasingly spending more time in school, experiencing puberty at younger ages and marrying and having children later than in the past. Neglect of this population has major implications for the future, since reproductive and sexual behaviours during adolescence have far-reaching consequences as they develop into adulthood. One such important need of adolescent girls is related to menstrual hygiene and reproductive health [10].

Thus, realizing the importance and thereafter shedding its ambivalence towards the issue of menstrual health, The Union Health and Family Welfare Ministry, Government of India approved a scheme on June 15, 2010 for the provision of highly subsidized sanitary napkins to adolescent girls in the rural areas to promote menstrual hygiene [15–18]. The new scheme will cover approximately 15 million girls in the age group of 10–19 years every month. This scheme will benefit the girls both from the Above Poverty Line (APL) and Below Poverty Line (BPL) categories. The estimated proportion of APL girls is about 70% (10.5 million) and that of BPL girls is 30% (4.5 million) [15]. The poverty line in India is based on availability and consumption of food on a daily basis. Accordingly, population is divided into two categories—Above Poverty Line (APL) and Below Poverty Line (BPL). The various government programs have special schemes for BPL category in the form of subsidies. In the new scheme, the sanitary napkins would be supplied to the BPL and APL category girls at a nominal cost of ₹ 01 and ₹ 05 per pack of six napkins respectively.

Provisions

In the first phase, 150 districts will be identified including 30 from the four southern States, Maharashtra and Gujarat and 120 from northern, central and the north-eastern States. In the first year, the Central Government will procure the napkins and supply these to the States that will in turn send these to local health functionaries i.e. ASHA (Accredited Social Health Activists) in the villages for distribution on a monthly basis or to the schools which will become distribution points for students. ASHA are the local village level

health functionaries (one ASHA is selected to serve one thousand population) who facilitates the utilization of primary health care services among village population and gets only performance based incentives. As an incentive, ASHA will get one pack of sanitary napkins free every month in addition to ₹ 50 per meeting held for creating awareness regarding menstrual hygiene among girls. The scheme, in the first phase, will cost ₹150 crore (1,500 million INR) in the current financial year. The states have an option to choose and involve self-help groups for manufacturing and marketing sanitary napkins subsequently. For the safe disposal of the napkins at the community level, deep-pit burial or burning is the available options. Another alternative is the installation of incinerators in schools that could be manually operated [15]. The Tamil Nadu state government in India is already running a successful scheme in some districts, where girl schools have sanitary napkin vending machines and incinerators [19].

Issues and Challenges

The scheme of provision of subsidized sanitary napkins to adolescent girls is a positive innovative step that will herald the era of menstrual hygiene and prevention of RTIs in India. As the issues related to reproductive health are considered taboo in Indian society and public discussion on these issues are often negligible, this scheme will pave the path for future innovative programs regarding adolescent health. Nevertheless, there are some issues regarding menstrual hygiene and menstrual health education that need serious deliberations as the success of new proposed scheme of providing subsidized sanitary napkins would depend on them.

Awareness and Acceptability Regarding Sanitary Napkins

The six 'A' of marketing (including social marketing) i.e. availability, accessibility, affordability, acceptability, appropriateness, awareness are necessary for the success of any health promotion program. Therefore, after opening the shop with the products that are easily available, accessible, affordable and appropriate, it would be premature to presume that the people will become aware of the product overnight and accept it instantaneously. For this reason, mere provision of sanitary napkins is not sufficient. School health programs and community health education programs need attention to make them instrumental in behavioral change of the community towards menstrual hygiene. After 3 years of intervention regarding menstrual health, Dongre et al. [20] reported that significantly more adolescent girls (55%) were aware of menstruation before its initiation compared with baseline (35%). The practice of using ready-made pads increased significantly from 5 to 25% and reuse of the cloth declined from 85 to 57%. The trend analysis showed that adolescent girls perceived a positive change in their behavior and level of awareness.

Role of Teachers

As there are many myths and misconception regarding menstruation, the provision of education on menstruation and reproductive health particularly in rural schools is still a major concern as teachers themselves are not scientifically oriented towards menstrual health issues. In small villages of India, the government schools have three or four teachers. Most of the time, one or two teachers are busy in implementing government programs like Census data collection, Pulse Polio Immunization Program, official meetings, trainings, election duty, BPL survey etc. Hence, the schools are left only with one or two teachers who are so over burdened with academic classes and administrative work that they are least interested in topics, such as, menstrual hygiene and reproductive health.

In addition, the non-availability of female teachers in every school is also a serious issue. In most of the public and private schools in small cities in India, the topic of reproductive health is skipped in the class and teachers instruct the students to read that chapter in the textbook at home. The language is another important barrier. In most of the state run schools in India, English language is still not a compulsory subject. Therefore, the use of vernacular terms for human reproductive organs becomes very embarrassing for teachers as well as students. The condition becomes more compound in cases of male teachers. In addition, the environment in co-education schools in rural areas is still not mature enough to discuss reproductive health education.

Role of Families

The adolescent girls in Indian villages might be very receptive to using sanitary napkins but there is a complex issue of lack of family support. According to Nation Family Health Survey-III (NFHS-III) in 2005–2006, in India, there is widespread support among both women and men (aged 15–49 years) for teaching most family-life education topics in school. Approximately 77% of respondents agreed that adolescents should be taught about family life related topics including physiological changes in body [21]. However, elderly women in Indian families, particularly grandmothers, are often the ultimate decision makers of households, and most of the time they have their

own cultural prejudices. This factor should be given consideration because the health-seeking phenomenon is a very complex issue. It is essential that all women in the family become educated and are counseled on the importance of the use of sanitary napkins. The role of community health functionaries like ASHA and members of the women self-help groups in community mobilization could be instrumental in reducing the religious and cultural barriers for the use of sanitary napkins.

Issue of School Dropout Girls

As of 2001 estimates, around 115 million children of primary school age, the majority of them girls, do not attend school worldwide [22]. This is largely due to the fact that girls are married at an early age (child marriages) in some cultures and drop out of school. However, many girls are kept at home when they start menstruating, either permanently (drop-out) or temporarily during the days that they menstruate. Because of this, girls get behind in school, especially in complex and abstract subjects where there is a continued building on previous knowledge. This eventually leads to school drop-out. Research confirms that the onset of puberty leads to significant changes in school participation among girls [2].

Water, sanitation and hygiene are crucial for getting and keeping girls in school, as they withstand the worst of unhygienic or non-existent latrines. Once a girl starts menstruating, it is very difficult and embarrassing for her to take care of herself properly, where a private toilet may not be available to her. A small but significant issue is that the doors on some latrines either do not have locks or latches or the locks and latches are broken. Even this small issue may jeopardize the privacy of the latrines and leave girls with few options.

The lack of clean and separate sanitation facilities in schools discourages many girls from attending school full time and forces some of them to drop out altogether, particularly as they approach adolescence and the onset of menstruation [22–26]. The United Nations Children's Fund, for example, estimated that one in 10 school-age African girls either skips school during menstruation or drops out entirely because of lack of sanitation [24]. In Nepal, lack of privacy for cleaning and washing (41%) was the major reason identified by survey respondents for being absent during menstruation [3]. Water Aid, Bangladesh reported that a school sanitation project with separate facilities for boys and girls helped boost girls' attendance by 11% per year, on average, over 7 years [13]. Because of the high dropout rates from school, the girls who remained at home deprived of whatever information they were supposed to learn in school.

Disposal of Used Sanitary Napkins

The disposal of sanitary napkins is a serious issue. There is no system of solid waste management at the village level in India. As menstruation is a very personal issue, the dumping of napkins in routine rubbish is not practiced in the villages. If these are buried in the earth, the dogs might dig them out. There is a belief in some villages that if a dog or a snake sees the used old cloths; the woman will not conceive. If dumped at outer areas of the village, there is problem of aesthetic sense. Thus, the disposal of used sanitary napkin remains an issue to be resolved. There is a proposal of installing incinerators in schools under the new scheme. Incinerators are being used in some states but their setup at every state would be a challenge. In addition, there is an issue of regular and proper maintenance of these incinerators at village level.

Quality and Supply of Sanitary Napkins

The recommendation of the new proposed scheme is to promote the local production of sanitary napkins by self-help groups. This will generate local employment opportunities and ensure community participation. However, there are questions related to sterilization and quality of the napkins themselves. Development of a quality control mechanism should be in place to keep surveillance over the quality of sanitary napkins supplied either by commercial units or by self-help groups. In addition, there is a need of monitoring the quality of napkins on a regular basis, otherwise it would defy the basic purpose of introducing sanitary napkins. The regular supply of the products is another issue. Sustainability of these self-help groups units will depend on the cost–benefit analysis. These could sustain only in two conditions—either mass production or subsidy by the government.

Role of Health Professionals

The medical professionals in India are not fully aware of the issue of reproductive health. Very little attention is given to the topic of menstrual hygiene in medical curriculum. Not a single chapter on this important topic is included in standard textbooks read by Indian undergraduate medical students. This clearly reflects in their medical practice where this issue of menstrual hygiene is treated very lightly. Similarly, in villages, this issue is seldom a priority of the multipurpose health worker-female (MPHW-F) as most of the time they are busy in immunization, Pulse Polio program, family planning, conducting deliveries etc. Thus, medical and Para-medical health professional's attention is necessary to promote menstrual hygiene. The mere introduction of sanitary napkins will not

address this issue. ASHA (Accredit Social Health Activist) workers should be given training on the issue of menstrual hygiene management through regular capacity building exercises so they could disseminate scientific information to women in the villages. This would certainly help in bringing a change in attitude of the community regarding menstrual hygiene. Periodic health talks from the village level Multipurpose Health worker (MPHW-F) and doctors should be encouraged for imparting scientific knowledge to mothers, adolescents and community leaders.

Human Rights Issues

The availability of proper washing facilities at schools and work place for menstrual management also involves human right issues. The gender–unfriendly school culture and infrastructure, and the lack of adequate menstrual protection alternatives and/or clean, safe and private sanitation facilities for female teachers and girls, undermine the right of privacy, which results in a fundamental infringement of the human rights of female teachers and girls [2].

Policy Implications

Reproductive tract infections have become a silent epidemic that devastates women's life and is closely interrelated with poor menstrual hygiene. This scheme will reduce the incidence and prevalence of RTIs among adolescent girls in the long run. School absenteeism and drop out of girls is linked with menstrual hygiene management. It not only involves health issues but also the human rights issues of women as lack of privacy and basic sanitation at our schools are a violation of human rights. It is clear that adequately addressing menstrual hygiene and management will contribute to Millennium Development Goals (MDG-7) on environmental sustainability. Additionally, due to its indirect effects on school absenteeism and gender discrepancy, poor menstrual hygiene and management may seriously hamper the realization of MDG-2 on universal education and MDG-3 on gender equality and women's empowerment [3]. There were an estimated 8 million 6–14 years old boys and girls in India who were out-of-school in 2009. One in four children left school before reaching Grade 5 and almost half left school before reaching Grade 8 in 2005 [23]. Reaching the Millennium Development Goal by 2015 that states, every child complete primary school, does not seem promising for India. Introduction of subsidized sanitary napkins will empower the adolescent girls and thus help in increasing school attendance and reduce dropouts. The girl's education will certainly help to improve the health indicators, particularly the maternal and child health indicators, in coming years.

Conclusion and Recommendations

The introduction of subsidized sanitary napkins was indeed a great need and its effect will be seen only in the long run. However, along with this scheme, other issues involved in promotion of menstrual hygiene, as discussed earlier, should also be given serious consideration. These aspects need to be addressed along with the new scheme. Mothers, family and the community should all be counseled regarding menstrual physiology and hygiene. A health education component with a clear-cut division of role and responsibilities of teachers and health workers would strengthen this initiative.

Menstrual hygiene promotion needs to be included in school curriculum. The school teachers should be trained regularly so that they can have the clear idea about how to impart the reproductive health education in classes. Rather it would be the more appropriate if a special team of teachers, preferably the females, who should be trained adequately to deliver lectures on reproductive health, were given the responsibility of covering the schools in one block each. The mobility of these teachers could be ensured beforehand by involving the education department. Trainers being outsiders (but from the same block), the students would be more comfortable to discuss their problems and queries with them. The conceptualization of menstrual education as a long-term, continuous process, beginning well before menarche and continuing long after should be our mission [27]. Social empowerment of adolescents is also necessary. Equipping adolescents to make informed sexual and reproductive choices requires a multi-pronged approach, including efforts to enhance knowledge and awareness, change attitudes and strengthen skills. The availability of services including the subsidized sanitary napkins is a step forward for initiating the acceptance of the practice [10].

The Government of India launched Kishori Shakti Yojana (Adolescent girl empowerment scheme) under Integrated Child Development Scheme (ICDS) in 1991 and this scheme could be utilized to cater the adolescent's reproductive health demands. Apart from that, the availability of sanitary napkins should not be restricted to health centers and health functionaries. In the villages, the women self help groups (like Mahila Mandal and Stri-Sabha), traditional birth attendants, female shopkeepers etc. should be involved to store and distribute sanitary napkins as girls would be more comfortable to purchase sanitary napkins from them. In addition, a functional adolescent group should have responsibility and be a part of these self-help groups. These functional adolescent groups would help in promoting vocational, livelihood skills and increasing awareness regarding reproductive health. The non-government organizations (NGO) would be instrumental in

provision of the information material, training and technical help. The "peer educators" concept (where a few girl leaders would be trained by ASHA and NGO's and teach other girls in the group) would help in spearheading the message.

Media has a strong role in imparting information and creating consensus on important social issues. The messages portrayed in advertisement of many commercial sanitary napkins are only for aesthetic sense. No clear message is being conveyed regarding protection from RTIs. In National Rural Health Mission (NRHM), many health promotion messages are aired in electronic and print media but it also remained silent on this important issue. The power of media should be utilized for wide spread dissemination of new health schemes with the right message attached. Female celebrities should be involved in the social marketing of sanitary napkins and promotion of menstrual hygiene.

Finally, this initiative by the Government of India is a welcomed step and was being awaited for a long time. This initiative will also encourage the other under developed and developing countries (particularly South East Asian countries having many cultural similarities with India) also and address this very important and sensitive issue. How long can we ignore the basic human rights of millions and millions of women in this civilized world? The time has come and this is the right time.

Conflict of interest None.

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